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EXAMINER	
RUTTEN, JAMES D	

ART UNIT	PAPER NUMBER
2192	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/688,268	MIXER, J. BRUCE	
	Examiner	Art Unit	
	J. Derek Rutten	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *38,39,41-45,47-61,63-71 and 73-76* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *38,39,41-45,47-52,57-61,63-65,70,71 and 73-76* is/are rejected.

7)☒ Claim(s) *53-56 and 66-69* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 June 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Acknowledgement is made of Applicant's amendment dated 20 June 2005, responding to the 5 October 2004 Office Action provided in the rejection of claims 38,39,41-61,63-71, and 73-75, wherein claims 38, 39, 41, 43, 45, 48, 49, 57-59, 61, 63, 64, 66-71, 73, and 74 have been amended, claim 46 has been canceled, and new claim 76 has been added. Claims 38, 39, 41-45, 47-61, 63-71, and 73-76 remain pending in the application and have been fully considered by the examiner.

2. Applicant's arguments, see pages 15-20, filed 20 June 2005, with respect to the rejection(s) of claim(s) 38, 57, and 70 under U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of "QMS 2060 EX, 2425 Turbo EX" by Tom.

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Response to Arguments

4. Applicant's drawing amendments have overcome the objection to the drawings. Therefore, the objection is withdrawn. Likewise, claim amendments have overcome the rejections under 35 U.S.C. 112. These rejections are withdrawn.

5. On pages 15-19 of the response, Applicant essentially argues that Bluethman and Kopsaftis fail to teach or suggest "print jobs with embedded printer microcode". This argument is convincing. However, a new rejection is made in view of "Tom" as detailed below.

6. On page 20 of the response, Applicant essentially argues that further references fail to cure the deficiencies of Bluethman and Kopsaftis. This argument is convincing.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 38, 41-44, 47, 50, 52, 70, and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art of record U.S. Patent 4,095,277 to Bluethman et al. (hereinafter

"Bluethman"), in view of prior art of record U.S. Patent 5,659,801 to Kopsaftis (hereinafter "Kopsaftis"), further in view of "QMS 2060 EX, 2425 Turbo EX" by Tom (hereinafter "Tom").

In regard to claim 38, Bluethman discloses:

A method (column 8 line 57 – column 9 line 32) *for a printer linked to a computing device to update microcode of said printer comprising the steps of:*

receiving from said computing device one or more files across an interface suitable for conveying information to be printed by said printer, wherein at least one of said files is a print job file comprising an embedded ... module (column 4 lines 63-67 and column 5 lines 1-11; also Figure 2), *said module being one of a plurality of modules in said print job file* (column 4 line 63 – column 5 line 9 shows a print job with several modules: The first module is a "PRINT" module, the second is "MODIFY", etc.);

recognizing if a received file is a print job file and if a received print job file comprises an embedded ...module, else if a received print-job file does not include a microcode module then normally processing said print-job file (column 3 line 67 – column 4 line 5);

Bluethman does not expressly disclose embedding a microcode update as a module, or writing the file to a memory area in the printer. However, in an analogous environment, Tom teaches that firmware upgrades can be sent directly to a printer as a print job (see page 1 in reference to QMS CrownView software: "CrownView is also a good interface for upgrading your printer's firmware. Just click on QMS's driver support page on the Web, download a file, and send it directly to your printer as a print job.").

Also in an analogous environment, Kopsaftis teaches updating the microcode of a peripheral device by writing the microcode to memory (Figure 3, item 236).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use Tom's teaching of a microcode update embedded in a print job with Bleuthman's teaching of print modules. One of ordinary skill would have been motivated to make it easy to perform enterprise-wide administrative tasks, such as upgrading the firmware on a set of printers (see Tom paragraph 4). Also, it would have been obvious to one of ordinary skill in the art to use Kopsaftis' teaching of writing microcode to device memory with Bluethman's printer. One of ordinary skill would have been motivated to write the microcode to device memory in order to make this new code available for processor execution (see Kopsaftis column 10 lines 25-40).

In regard to Claim 41, Kopsafkis teaches writing the microcode to a volatile memory area (Column 5, lines 33-35).

In regard to Claim 42, Kopsafkis teaches writing the microcode to a non-volatile memory area (Figure 3, item 236).

As per claim 43, Kopsafkis teaches that the microcode is an executable program (column 1 lines 16-17). Further, Kopsafkis teaches: *said executable program being machine language code executable by a processor in said printer* (Executable programs inherently consist of machine language code, since processors can only execute machine language.).

As per claim 44, Kopsafkis teaches: *after said step of writing, the step of transferring execution to said executable program* (column 10 lines 37-40).

In regard to Claim 47, the examiner takes official notice that loading a program into memory is an obvious step in executing the program.

In regard to Claim 50, Bluethman teaches a module with a header and module data (column 4 line 63 – column 5 line 9 as cited in the rejection of claim 1 above).

In regard to Claim 52, Kopsaftis teaches a bit for specifying the destination of the module (Column 5, lines 15-17).

In regard to claim 70, Bluethman discloses a computer readable device (column 2 lines 49-54). All further limitations have been addressed in the above rejection of claim 38.

As per claim 76, the above rejection of claim 38 is incorporated. All further limitations have been addressed in the above rejection of claim 38.

9. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman, Kopsaftis, and Tom in view of "Linkers and Loaders" by Levine (hereinafter "Levine").

As per claim 39, Bluethman discloses: *said print job file further comprises a file header portion and a separate file data portion, and wherein presence of a microcode module in said print job file is indicated by a bit pattern in said file header portion of said print job file* (Digital equipment inherently contains bit patterns in all data. Bluethman discloses module headers that describe further processing in column 3 line 66

– column 4 line 10). Bluethman does expressly disclose the use of a separate header and data portion. However, in an analogous environment, Levine teaches the use of headers as a way to delimit a file according to the contents that follow (See Figure 3.10 on page 63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Levine's teaching of headers with Bluethman's module and Tom's print job. One of ordinary skill would have been motivated to describe a file of segments using a header in order to decode the file (Levine, bottom of page 62).

10. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman, Kopsaftis, and Tom in view of prior art of record U.S. Patent 5,206,735 to Gauronski et al. (hereinafter "Gauronski").

In regard to Claim 45, Bluethman and Kopsaftis teach the method of Claim 44, but do not teach resuming execution of a previously running program after transferring execution to the executable program. Gauronski, however, does teach resuming execution of a previously running print job that was previously in existence after a print job is interrupted (Column 7, lines 38-46). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 45, as taught by Bluethman and Kopsaftis, where a previously running program resumes execution after transferring execution to the executable program, since this allows uninterrupted service from the printer and no loss of print jobs.

11. Claims 48, 49, 71, 73, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman, Kopsaftis, and Tom as applied to claim 38 above, and further in view of prior art of record U.S. Patent 5,649,112 to Yeager et al. (hereinafter "Yeager").

As per claim 48, the above rejection of claim 44 is incorporated. Bluethman and Kopsaftis do not expressly disclose the executable program acting to download remaining modules. However, in an analogous environment, Yeager teaches updating microcode on a module by module basis while the rest of the microcode executes (column 4 lines 20-27). Once updated, this module is relinked to the rest of the microcode and immediately executed. Since the code to download is itself a module, it would be obvious to one of ordinary skill to update a download module that would download further module updates. One would be motivated to provide a high availability system that does not require down time for a software update.

In regard to Claim 49, the above rejection of claim 48 is incorporated. Further, the examiner takes official notice that a pointer is a well-known method for a program to reference objects that it might need during execution.

As per claim 71, the above rejection of claim 70 is incorporated. Further, Kopsaftis provides a microcode update including an executable program (see the rejection of claim 43 above). Bluethman and Kopsaftis do not expressly disclose an executable program that is immediately executable before receiving the rest of the print job file. However, in an analogous environment, Yeager teaches updating microcode on a module by module basis while the rest of microcode executes (column 4 lines 20-27).

This means that one module can be updated while the rest of the code executes and once updated can be executed by the processor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yeager's teaching of modular microcode updates in Kopsaftis' microcode. One of ordinary skill would have been motivated to provide a highly available system that can provide service while performing update maintenance.

As per claim 73, all limitations have been addressed in the above rejection of claim 71.

As per claim 74, the above rejection of claim 71 is incorporated. All further limitations have been addressed in the above rejection of claim 39.

12. Claims 51 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman, Kopsaftis, and Tom as applied to claim 50 above, further in view of prior art of record U.S. Patent 4,868,866 to Williams, Jr. (hereinafter "Williams").

In regard to Claim 51, Bluethman and Kopsaftis teach the method of Claim 50, but do not teach that the module header comprises a bit pattern that directs a processor to uncompress a module. Williams, however, does disclose a bit pattern in a file header, which instructs a processor to decompress file data (Column 15, lines 53-56). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 51, as taught by Bluethman and Kopsaftis, where a bit pattern in a file header instructs a processor to decompress file data, as taught by

Williams, since this allows a file to be compressed an decompressed without separate instructions or machinery.

As per claim 75, the above rejection of claim 50 is incorporated. Further, Williams teaches decompressing file data as pointed out in the above rejection of claim 51. Compressibility is thus inherent since data must first be compressed if it is to be decompressed.

13. Claims 57-60, 64, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman, in view of Kopsaftis, in view of Tom, further in view of the "Background of the Invention" section appearing on pages 1 and 2 of the originally filed specification (hereinafter "BOTI").

In regard to claim 57, Bluethman teaches a computing device (FIG. 1), a printer (FIG. 2), an interface (FIG. 1 element 15), and a print program (column 2 lines 3-8). Bluethman does not expressly disclose printer processor, printer memory, or printer engine. However, in an analogous environment, BOTI teaches that printers can comprise a processor, memory and an engine (page 1 lines 12-18; a print engine is inherent in a printer that responds to commands, since the engine provides the proper response sequence for a particular command.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the printer of BOTI with the device of Bluethman. One of ordinary skill would have been motivated to send data to BOTI's

printer in order to enable the functionality of the device. All further limitations have been addressed in the above rejection of claim 38.

In regard to claim 58, the above rejection of claim 57 is incorporated. All further limitations have been addressed in the above rejection of claim 39.

As per claim 59, the above rejection of claim 57 is incorporated. Bluethman's module data provides specific commands and provides for the claimed "module body" as cited in the above rejections of claims 38 and 50.

As per claim 60, the above rejection of claim 58 is incorporated. Kopsafkis teaches addressing in the header a destination printer (Column 5, lines 7-10).

As per claims 64 and 65, the above rejection of claim 59 is incorporated. All further limitations have been addressed in the above rejection of claims 51 and 52, respectively.

14. Claims 61 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman, Kopsaftis, Tom, and BOTI as applied to claim 58 above, and further in view of Yeager.

As per claim 61, the above rejection of claim 58 is incorporated. All further limitations have been addressed in the above rejection of claim 44.

As per claim 63, the above rejection of claim 61 is incorporated. All further limitations have been addressed in the above rejection of claim 48.

Allowable Subject Matter

15. Claims 53-56 and 66-69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Japanese patent publication 2000059545 A, published February 25 2000, describes a facsimile machine or printer, that makes a determination of whether received information is program information or printing information. If program information is received, flash memory of the device is updated.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571) 272-3703. The examiner can normally be reached on T-F 6:00 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (571) 272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr

TUAN DAM
SUPERVISORY PATENT EXAMINER